

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

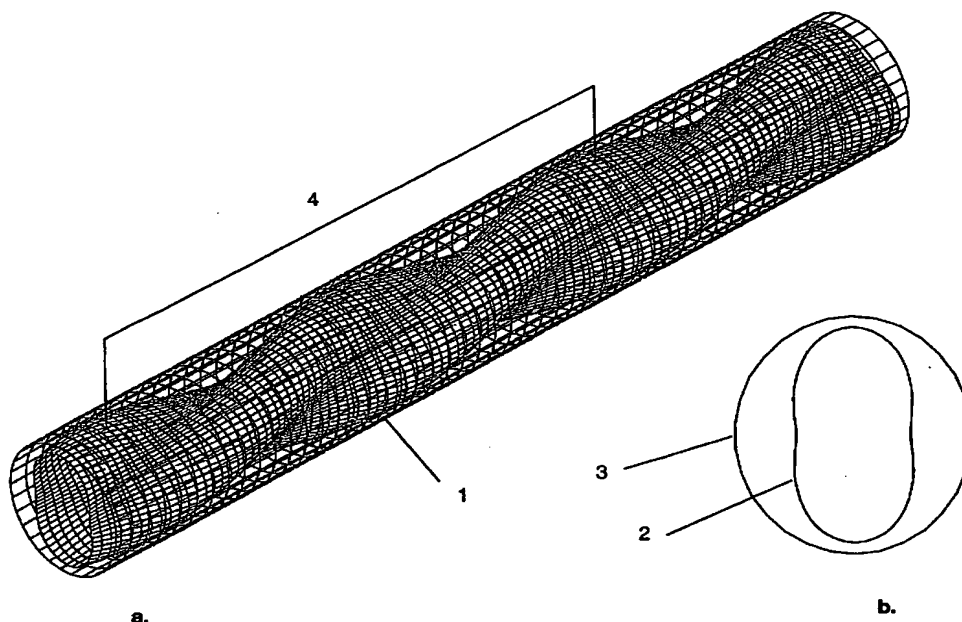
PCT

(10) International Publication Number
WO 2004/037336 A3

- (51) International Patent Classification⁷: A61M 39/00
- (21) International Application Number: PCT/NO2003/000336
- (22) International Filing Date: 8 October 2003 (08.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
20024883 9 October 2002 (09.10.2002) NO
- (71) Applicant (for all designated States except US): AMERSHAM HEALTH AS [NO/NO]; Intellectual Property Dept., Nycoveien 1-2, P.O. Box 4220 Nydalen, N-0401 Oslo (NO).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ERIKSEN, Morten [NO/NO]; Amersham Health AS, Nycoveien 1-2, P.O. Box 4220 Nydalen, N-0401 Oslo (NO).
- (74) Agents: WULFF, Marianne, Welby et al.; Amersham Health AS, Nycoveien 1-2, P.O. Box 4220 Nydalen, N-0401 Oslo (NO).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: TUBE WITH NON-CIRCULAR INTERNAL CROSS-SECTION



(57) Abstract: The invention relates to a device and method of using the device for administration of a homogeneous preparation to a patient. More particularly the invention relates to a tube for use in controlled and substantially steady state administration of a segregating particulate dispersion by infusion. The tube of the invention has a non-circular cross-section and is twisted along its centerline.

BEST AVAILABLE COPY



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
10 September 2004

INTERNATIONAL SEARCH REPORT

Intern: llication No
PCT/ 3/00336

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M39/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61M A61B A61N B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, MEDLINE, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 71189 A (MALLINCKRODT INC) 30 November 2000 (2000-11-30) page 9, line 24 -page 10, line 25 page 2, line 16 - line 19 page 7, line 4 - line 6 page 11, line 17 - line 24 page 11, line 33 -page 12, line 26 figures 7,10	1-14
A	US 2 644 983 A (CURTISS NATHANIEL H) 14 July 1953 (1953-07-14) column 7, line 13 - line 74; figure 9	8
A	EP 1 086 715 A (AUBEX CORP) 28 March 2001 (2001-03-28) paragraph [0036] - paragraph [0042]; figure 6	1-14

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

18 June 2004

Date of mailing of the international search report

14 JULI 2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

PEDER GJERVALDSAETER/M

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NO 03/00336

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 10-12, 14b
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.: 1-9, 13 in part
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: 10-12,14b

Claims 10-12 and 14b relate to methods of treatment of the human or animal body by surgery or by therapy or diagnostic methods practised on the human or animal body (PCT Rule 39.1(iv)). Nevertheless, a search has been executed for these claims. The search has been based on the alleged effects of the product/device.

Note: there are two claims numbered 14 in the filed claims. 14b refers to the last one of these claims.

Continuation of Box I.2

Claims Nos.: 1-9,13 in part

Claims 1-9 and 13

From the description it is clear that the general concept of the invention refers to a solution of the problem concerning inhomogeneities in contrast agents administered to a patient. This problem has by the invention been solved by arranging a tube with a non-circular internal cross-section and twisting the tube along its centerline.

The search has therefore been restricted to the field of tubes delivering contrast agents to a patient.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Int. Application No
PCT/JP03/00336

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0071189	A	30-11-2000	US 2001018571 A1 30-08-2001
		AU 5149200 A	12-12-2000
		EP 1180047 A1	20-02-2002
		WO 0071189 A1	30-11-2000
		US 2003105423 A1	05-06-2003
		US 2001056256 A1	27-12-2001

US 2644983	A	14-07-1953	NONE

EP 1086715	A	28-03-2001	JP 2001087396 A 03-04-2001
		CN 1288758 A	28-03-2001
		DE 60007048 D1	22-01-2004
		DE 60007048 T2	03-06-2004
		EP 1086715 A2	28-03-2001
		TW 450818 B	21-08-2001
		US 6367502 B1	09-04-2002
